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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,764	01/14/2004	Wilhelm Lutzer	4609	4232
21553 7590 06/25/2007 FASSE PATENT ATTORNEYS, P.A. P.O. BOX 726 HAMPDEN, ME 04444-0726			EXAMINER CONLEY, SEAN EVERETT	
			ART UNIT 1744	PAPER NUMBER
			MAIL DATE 06/25/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/757,764

Applicant(s)

LUTZER, WILHELM

Examiner

Sean E. Conley

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 April 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 19-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/12/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of group I, claims 1-18 in the reply filed on April 11, 2007 is acknowledged. Claims 19-22 are hereby withdrawn from consideration for being directed to a non-elected invention. Rejoinder of the non-elected method claims (19-22) will be considered upon the indication of allowable subject matter and the basis thereof.

### ***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on January 16, 2003. It is noted, however, that applicant has not filed a certified copy of the German application as required by 35 U.S.C. 119(b).

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Kozak, III (U.S. Patent No. 6,054,060).

Regarding claims 1, 4 and 5, Kozak discloses an apparatus for thermal sterilization of a microbiologically contaminated liquid to produce a thermally treated liquid. The apparatus comprises: a pressure vessel (tank 18) enclosing a pressure space therein and having a vessel inlet (22) and a vessel outlet (28); a heater (30) arranged in a heating zone in said pressure space within said pressure vessel (tank 18); and a heat exchanger (conduit 34) arranged in said pressure vessel (18), having a heat exchanger inlet (54), a heat exchanger outlet (passes through tank outlet 28) and a heat exchange wall (wall of conduit 34) defining first and second flow paths along opposite sides of said heat exchange wall. The heat exchanger outlet is connected to said vessel outlet (28) and the heat exchanger inlet (54) is fluidly connected to the vessel inlet (22) and located within the pressure space of the pressure vessel (tank 18) (see figure; see col. 2, line 55 to col. 4, line 45). The apparatus of Kozak is capable of functioning so that the contaminated liquid can flow into said pressure vessel through said vessel inlet, along said first flow path in a first net flow direction, and through said heating zone to from the treated liquid, and the treated liquid can flow from said heating zone along said second flow path in a second net flow direction and out of said pressure vessel through said vessel outlet, while heat is transferred from the treated liquid to the contaminated liquid through said heat exchange wall.

Regarding claim 2, Kozak discloses a heat exchanger (conduit 34) that is a counterflow heat exchanger, and the second net flow (upward direction) is opposite the first net flow (downward direction) (see figure; see col. 4, lines 3-45).

Regarding claim 3, Kozak discloses a heat exchanger (conduit 34) that is configured, dimensioned, arranged and adapted so that a substantial proportion of energy needed for heating the contaminated liquid is retained inside said pressure vessel (rank 18) by re-cooling of the treated liquid along said second flow path of said heat exchanger before the treated liquid exits said pressure vessel (see figure; see col. 4, lines 3-45).

Regarding claim 6, Kozak discloses a second flow path that is bounded and enclosed by said heat exchange wall (wall of conduit 34) and thereby confined inside said heat exchanger (conduit 34), and said first flow path is a portion of said pressure space (space inside the tank 18) surrounding said heat exchanger (34) within said pressure vessel (tank 18) (see figure; see col. 4, lines 3-45).

Regarding claim 7, Kozak discloses an apparatus with a heat exchanger (conduit 34) that is a hollow pipe-shape (conduit shape), and said heat exchange wall is a cylindrical pipe wall enclosing said second flow path therein (see figure; see col. 4, lines 24-30).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kozak, III as applied to claim 1 above, and further in view of Morton (U.S. Patent No. 3,445,344).

Kozak discloses the claimed invention including an electric heating element (30) connected to a power supply (32) for operating the heater (30) to a predetermined temperature (see figure; see col. 3, line 60 to col. 4, line 3). However, Kozak fails to specifically teach a temperature sensor arranged in the heating zone within the tank in order to control the heater (30) in response to a sensed temperature.

Morton discloses an apparatus for purifying water. The apparatus includes a hot water storage tank (18) which is provided with an electric heating element (84) and a temperature sensor (86) for actuating the electric heater (84) responsive to a temperature fall below a desired minimum and for deactivating electric heater (84) responsive to a temperature rise to a desired maximum (see col. 5, lines 33-40).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Kozak and include a temperature sensor inside the water tank containing the heating element as taught by Morton in order to measure the water temperature and control the operation if the

Art Unit: 1744

heating element when the water temperature is above or below the desired sterilization temperature.

7. Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kozak, III as applied to claim 1 above, and further in view of Mallory (U.S. Patent No. 2,270,540).

Kozak discloses the claimed invention except for the component of the apparatus which feeds the fluid into the tank (18) for treatment.

Mallory discloses an apparatus for treating liquids by applying heat to the liquid. The apparatus comprises a pressure vessel (tank 20) for receiving a fluid that is to be indirectly heated by steam in a sterilizing coil (19) in the tank (20). The fluid is passed to the treatment tank (20) via pipe (14) and pump (16). Pump (16) is fitted with a pressure gauge (17), a return bypass pipe (18), and a pressure relief valve (22). The pressure relief valve (22) functions to maintain the delivery of the fluid into the tank at a constant pressure (see figure; see page 4, col. 1; lines 37-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Kozak and include a pump and pressure relieve valve setup as taught by Mallory in order to ensure that the supply of pressurized fluid to the treatment tank is maintained at a constant rate.

Furthermore, when the applicant's claimed invention simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is

obvious. Also, a patent claim can be proved obvious merely by showing that the combination of elements was obvious to try. When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product is not of innovation but of ordinary skill and common sense.

8. Claims 9-14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kozak, III as applied to claim 1 above, and further in view of Oklejas et al. (U.S. Patent No. 4,983,305).

Kozak discloses the claimed invention except for the means for pressurizing and sending the fluid to the heat treatment apparatus.

Oklejas et al. disclose a system for delivering a pressurized fluid to a treatment apparatus and then recovering energy from the fluid when it exits the apparatus. Specifically, the system comprises an inlet pump (29) for pressurizing the fluid going into the treatment apparatus and an exit turbine (27) for reducing the pressure of the exiting fluid and also for recovering energy. The pump (25) and turbine (27) are attached at the inlet and outlet of the treatment apparatus, respectively, and they are further mechanically connected to each other by a rotor shaft (61) for transmission of the recovered energy from the turbine to the pump (see col. 3, lines 15-37; see col. 4, lines 42-67). Furthermore, it is well known in the art that the feed pump would be attached to a pump motor in order to activate and operate the pump.



Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Kozak and include a inlet pump/outlet turbine energy recovery system as disclosed by Oklejas et al. in order to pressurize and feed the liquid to the treatment apparatus and also depressurize and recover energy from the liquid as it exits after treatment.

Furthermore, when the applicant's claimed invention simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious. Also, a patent claim can be proved obvious merely by showing that the combination of elements was obvious to try. When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product is not of innovation but of ordinary skill and common sense.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kozak, III in view of Mallory.

Kozak discloses an apparatus for thermal sterilization of a microbiologically contaminated liquid to produce a thermally treated liquid. The apparatus comprises: a pressure vessel (tank 18) enclosing a pressure space therein and having a vessel inlet (22) and a vessel outlet (28); a heater (30) arranged in a heating zone in said pressure space within said pressure vessel (tank 18); and a counterflow heat exchanger (conduit

Art Unit: 1744

34) arranged in said pressure vessel (18), having a heat exchanger inlet (54), a heat exchanger outlet (passes through tank outlet 28) and a heat exchange wall (wall of conduit 34) defining first and second flow paths along opposite sides of said heat exchange wall. The heat exchanger outlet is connected to said vessel outlet (28) and the heat exchanger inlet (54) is fluidly connected to the vessel inlet (22) and located within the pressure space of the pressure vessel (tank 18) (see figure; see col. 2, line 55 to col. 4, line 45). However, Kozak fails to teach the component of the apparatus which propels the fluid into the tank (18) inlet for treatment.

Mallory discloses an apparatus for treating liquids by applying heat to the liquid. The apparatus comprises a pressure vessel (tank 20) for receiving a fluid that is to be indirectly heated by steam in a sterilizing coil (19) in the tank (20). The fluid is passed to the tank (20) via pipe (14) and pump (16). Pump (16) is fitted with a pressure gauge (17), a return bypass pipe (18), and a pressure relief valve (22). The pressure relief valve (22) functions to maintain the delivery of the fluid into the tank at a constant pressure (see figure; see page 4, col. 1, lines 37-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Kozak and include a pump and pressure relieve valve setup as taught by Mallory in order to ensure that the supply of pressurized fluid to the treatment tank is maintained at a constant rate.

Furthermore, when the applicant's claimed invention simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is

Art Unit: 1744

obvious. Also, a patent claim can be proved obvious merely by showing that the combination of elements was obvious to try. When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product is not of innovation but of ordinary skill and common sense.

10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kozak, III in view of Mallory as applied to claim 17 above, and further in view of Oklejas et al.

Kozak in view of Mallory disclose the claimed invention except for the means for pressurizing and sending the fluid to the heat treatment apparatus.

Oklejas et al. disclose a system for delivering a pressurized fluid to a treatment apparatus and then recovering energy from the fluid when it exits the apparatus. Specifically, the system comprises an inlet pump (29) for pressurizing the fluid going into the treatment apparatus and an exit turbine (27) for reducing the pressure of the exiting fluid and also for recovering energy. The pump (25) and turbine (27) are attached at the inlet and outlet of the treatment apparatus, respectively, and they are further mechanically connected to each other by a rotor shaft (61) for transmission of the recovered energy from the turbine to the pump (see col. 3, lines 15-37; see col. 4, lines 42-67). Furthermore, it is well known in the art that the feed pump would be attached to a pump motor in order to activate and operate the pump.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Kozak and include a inlet pump/outlet turbine energy recovery system as disclosed by Oklejas et al. in order to pressurize and feed the liquid to the treatment apparatus and also depressurize and recover energy from the liquid as it exits after treatment.

Furthermore, when the applicant's claimed invention simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious. Also, a patent claim can be proved obvious merely by showing that the combination of elements was obvious to try. When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product is not of innovation but of ordinary skill and common sense.

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean E. Conley whose telephone number is 571-272-8414. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on 571-272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Art Unit: 1744

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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June 21, 2007

  
GLADYS JP CORCORAN  
SUPERVISORY PATENT EXAMINER